

6026

OSCILLATOR TRIODE

Subminiature Type for Radiosonde Service at 400 Mc

TENTATIVE DATA

RCA-6026 is a high-efficiency oscillator triode of the subminiature type intended particularly for transmitting service in radiosonde and similar applications. As a class C oscillator in such service, the tube can deliver a useful power output of 1.25 watts.

Utilizing subminiature construction with flexible leads, the 6026 has very short transit time and low interelectrode capacitances. In addition, the very small size and light weight of this tube make it especially useful in equipment requiring extreme compactness.

Actual Size

Ratings for this tube have been established on the basis of its intended use in radiosonde and similar applications where power output, compactness, and light weight are the primary considerations, and where a tube life of only a few hours is required.

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:		
Voltage Range* (AC or DC)	5.2 to 6.6	volts
Current, with 6.3 volts on heater	0.2	ampere
Direct Interelectrode Capacitances (with no external shield):		
Grid to Plate	1.3	μμf
Input	2.2	μμf
Output	0.38	μμf
Characteristics, Class A Amplifier:		
Plate Voltage	120	volts
Cathode Resistor	220	ohms
Amplification Factor	24	
Plate Resistance	4000	ohms
Transconductance	5900	micromhos
Plate Current	12	ma

Mechanical:

Mounting Position	Any
Maximum Envelope Length	1-1/2"
Maximum Length from Button Seal to Bulb Top (Excluding tip)	1.26"
Maximum Diameter	0.4"
Bulb	T-3
Leads, flexible	5
Length	1-1/2" to 1-3/4"
Orientation and Diameter	Same as Sub-Minar Base

OSCILLATOR - Class C Telegraphy

Maximum Ratings,* *Absolute Values*:

DC PLATE VOLTAGE	150 max.	volts
DC GRID VOLTAGE	-50 max.	volts
TOTAL CATHODE CURRENT	40 max.	ma
DC GRID CURRENT	10 max.	ma
PLATE INPUT	3.3 max.	watts
PLATE DISSIPATION	3.0 max.	watts
PEAK HEATER-CATHODE VOLTAGE	0 max.	volts

Typical Operation as Oscillator at 400 Mc:

DC Plate Voltage	135	volts
Grid Resistor	1300	ohms
DC Plate Current	20	ma
DC Grid Current (Approx.)	9.5	ma
Useful Power Output	1.25	watts

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	*Min.*	*Max.*	
Heater Current:				
With 5.2 volts ac on heater	-	0.176	-	amp
With 6.6 volts ac on heater	-	-	0.225	amp
Amplification Factor	1	17	31	
Grid-to-Plate Capacitance	-	1.05	1.55	μμf
Grid-to-Cathode Capacitance	-	1.75	2.65	μμf
Plate-to-Cathode Capacitance	-	0.305	0.455	μμf
Plate Current	2	8	16	ma
Plate Current	3	9.5	18.5	ma
Plate Current	4	-	300	μamp
Transconductance	2	4200	7600	μmhos
Transconductance	3	4600	8000	μmhos

Note 1: With 5.2 or 6.3 volts ac on heater, 120 volts dc on plate, and cathode resistor of 220 ohms.
Note 2: With 5.2 volts ac on heater, 120 volts dc on plate, and cathode resistor of 220 ohms.
Note 3: With 6.3 volts ac on heater, 120 volts dc on plate, and cathode resistor of 220 ohms.
Note 4: With 5.2 volts ac on heater, 120 volts dc on plate, -12 volts dc on grid, and cathode resistor of 220 ohms.

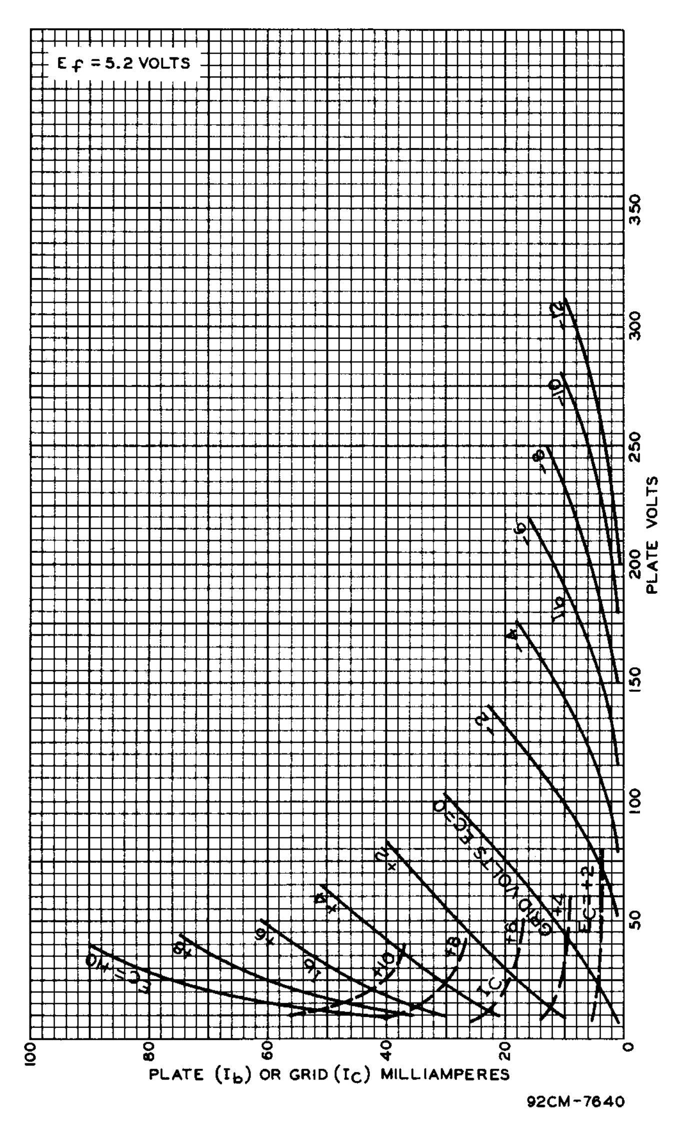
* Heater voltage range and maximum ratings are established on basis that tube heater will be supplied from batteries in radiosonde and similar applications utilizing equipment designed for extreme compactness and light weight and requiring tube life of only a few hours.

OPERATING NOTES

The *maximum ratings* in the tabulated data for the 6026 are limiting values above which the serviceability of the 6026 may be impaired from the viewpoint of life and satisfactory performance. Therefore, in order not to exceed these absolute ratings, the equipment designer has the responsibility of determining an average design value for each rating below the absolute value of that rating by an amount such that the absolute values will never be exceeded under any usual condition of supply-voltage variation, load variation, or manufacturing variation in the equipment itself.

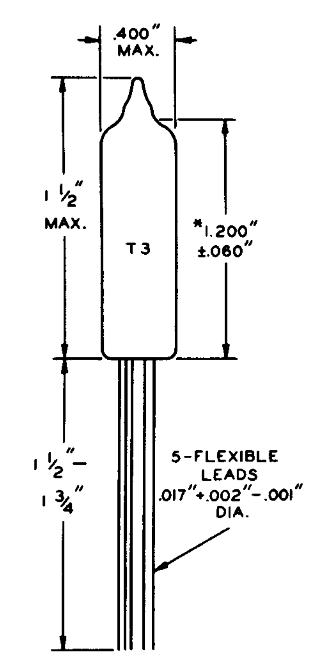
It is recommended that the cathode be connected directly to the heater.

The *flexible leads* of the 6026 are usually soldered to the circuit elements. Soldering of the connections should be made as far as possible from the glass button. If this precaution is not followed, the heat of the soldering operation may crack the glass seals of the leads and damage the tube.



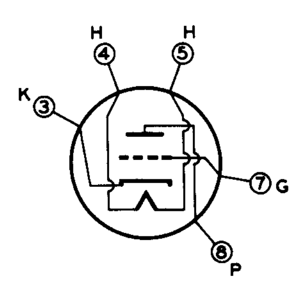
Average Plate Characteristics of Type 6026.

DIMENSIONAL OUTLINE



* MEASURED FROM BASE SEAT TO BULB-TOP LINE AS DETERMINED BY RING GAUGE OF .210" I.D.

TERMINAL CONNECTIONS



LEAD 3: CATHODE
LEAD 4: HEATER
LEAD 5: HEATER
LEAD 7: GRID
LEAD 8: PLATE